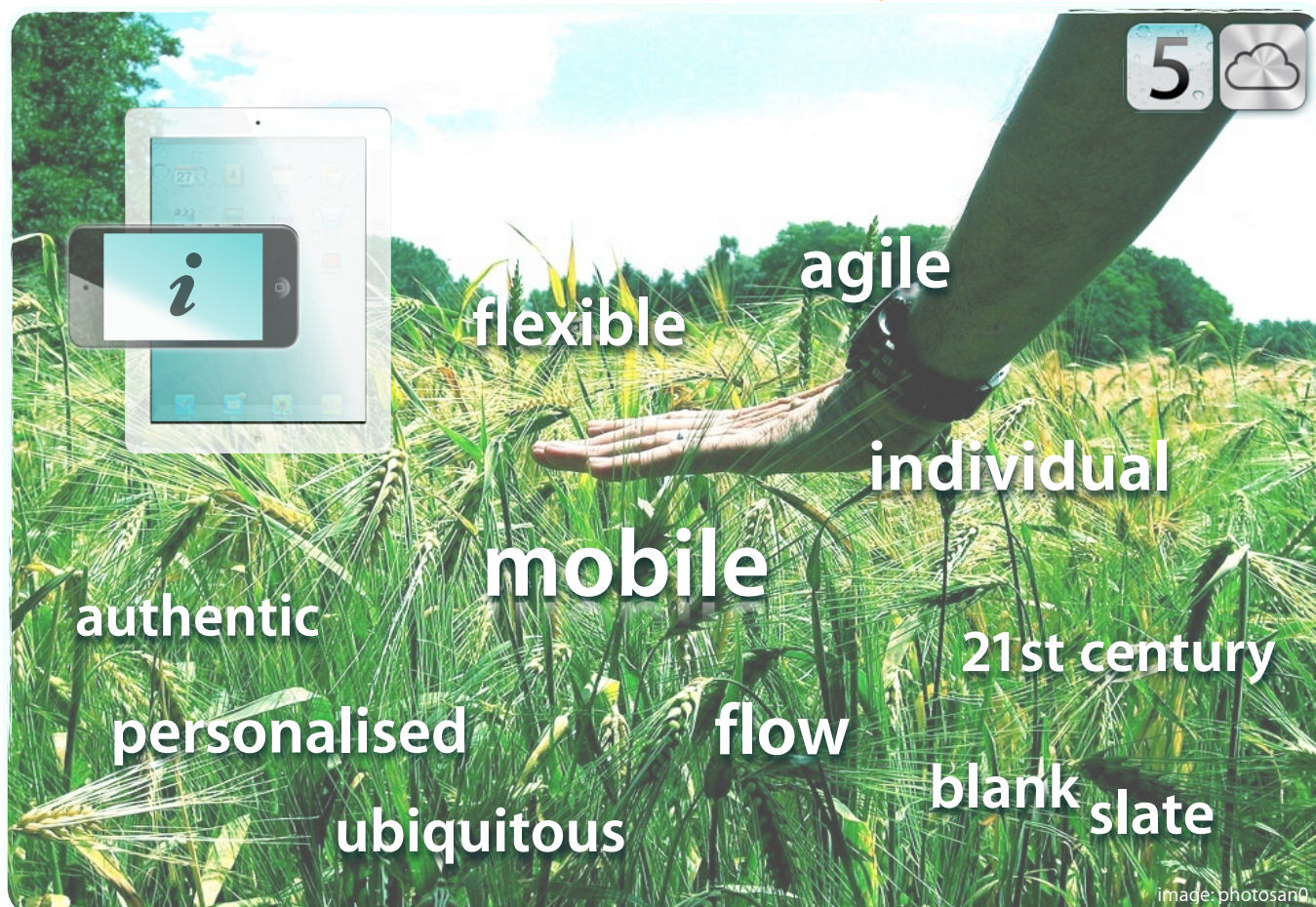


Beginners Guide to the iPhone, iPod touch & iPad in Education

Updated with new info on iOS5 + iCloud



A.	Ask Yourself >	What is your learning vision & how will mobile learning enhance it?
B.	Basics >	Quick Summary of hardware, software & operating tips.
C.	Challenge >	How can these devices be effectively deployed in schools?
D.	Differentiation >	The full potential of this platform is in personalised learning.
E.	Eppendix >	Links to all the companion resources & networks you will need.

* Now you can install this PDF guide on your iPhone, iPod touch (requires iOS4) & iPad using the **iBooks** app.



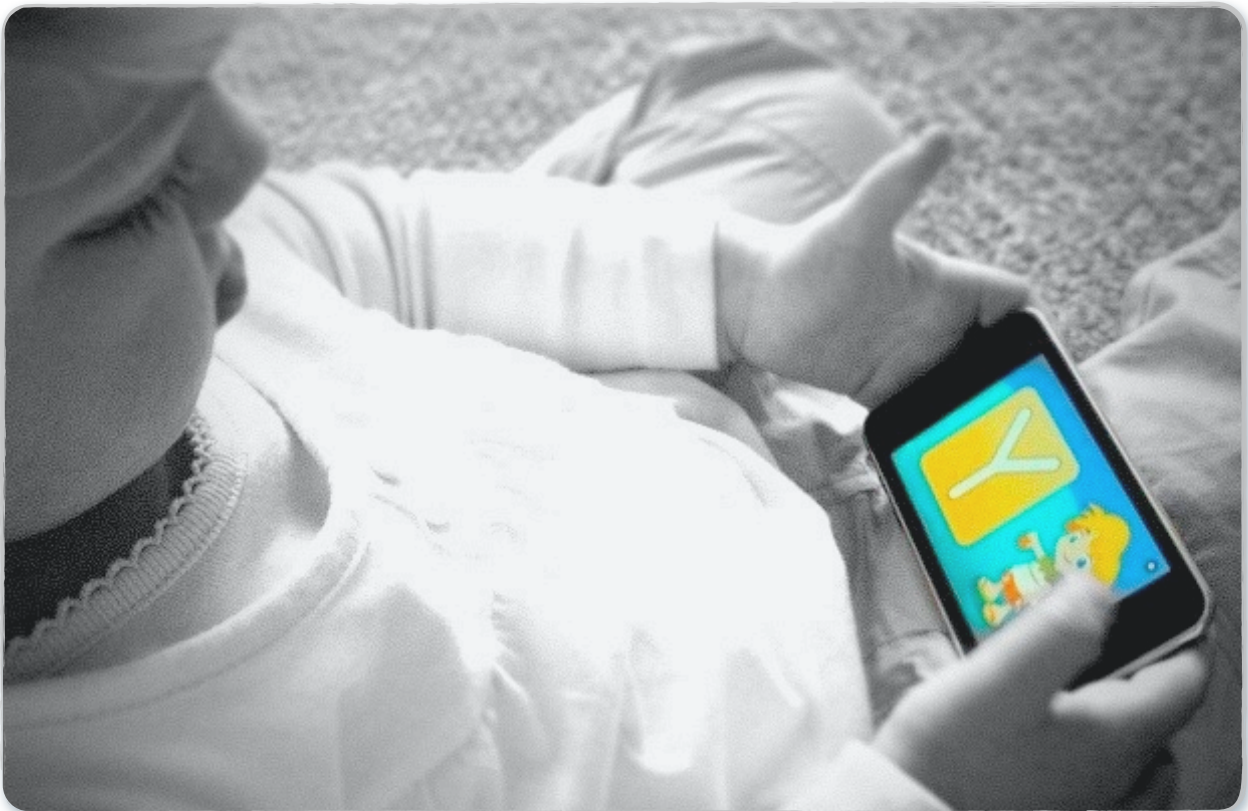
Content & Design by Jonathan Nalder
with Tony Vincent, Kate Maccoll, Megan Iemma, Louise Duncan

 **Distinguished Educators**

Disclaimer: All advice contained within this guide, while being the professional opinion of the authors, is intended for general guidance only. Contact Apple or your Education employer for more detailed info.



“This mobile platform, &
how students interact with them,
is *different*”.



Why?

Many educators may know intuitively that this platform has enormous potential, but we can't always find the words to **describe it to other teachers, parents, & most importantly, school boards & administrators**. See if these can help:

- Saves money & student's backs by combining books, writing tools, calculators, dictionaries, atlas's, encyclopedias, diaries, calendars etc).
- Saves time as information & computing for learning is always available - no time lost moving to computers, booting them up, or even having to learn software interfaces - even 3 year olds can intuitively navigate the touch-based software.
- Empowers students to take responsibility for their learning by handing over the tools necessary for them to become self-managing learners. The infinite customisation possible with each device means Education can become personalised & differentiated for each & every learner.

**A. Ask Yourself >****What is your learning vision ?**

"What's wrong with education cannot be fixed with technology"

> **Steve Jobs, 1996**

"I think the school situation has a parallel here when it comes to technology. It is ... much more hopeful to think that technology can solve problems that are organizational & political in nature, but it ain't so"

> **Steve Jobs, 1995**

With over 14,000,000,000 apps downloaded (as at June 2011), its clear that the iPhone, iPod touch & iPad platform is *very* popular. Chances are you already have one, or want one. But are they a magic cure for transforming education?

Experience shows that educators who use technology fall into one of two categories: A. you are comfortable with 21st century technology but struggle to integrate it in your teaching, or B. You are a very good pedagogue who struggles to understand where new technology fits.

Neither of these types can live without the other, because when they come together, transformational learning becomes possible. So do you or your institution have a learning vision to begin with? If not, no expensive purchase of technology will suddenly create one, & good teachers & good users of technology will continue to work separately.

Learning Vision e.g.:

'All students are prepared for the literacy & numeracy demands of their future lives'

Once you have a vision such as this one, *then* you will be able to move forward with targeted mobile learning, rather than just scattered attempts to merely engage students, or 'fix' education solely with technology purchases.

See the [Eppendix](#) for the 'Miracle transformation fallacy' & 'Framework for Learning' to extend your understanding of this area.

A. Ask Yourself >**How can your vision be enhanced by mobile learning devices?**

"Students & teachers already use mobile technology in almost every aspect of their daily lives. Now schools can tap into that enormous opportunity for learning by providing continuous access to educational materials, along with easy ways for learners to connect, collaborate & share."

> **Mobile Learning: Get up to speed (Apple)**

A learning vision must be agreed on by all, with learning itself at the centre. Once chosen though, it opens up the chance to harness learning that truly moves at the speed of the 21st century, i.e.. at *mobile* speeds.

Where once mass-education was designed to prepare students for jobs that required high knowledge of skills & content, but very little need to problem solve & handle complex tasks, now the opposite is true. Creativity & the ability to generate, not just consume content, is what employers of the future will require. As the era of 'ubiquitous computing', or 'EveryWare' grows closer, Educators need to begin embracing this higher order learning focus so that the 'ubiquitous learning' strategies that will be needed can develop.

So as the world of information speeds up, & education moves from a content to a problem solving paradigm, how can the traditional confined classroom cope? Not every institution is able to tear down buildings & start again, but they can begin introducing the very same h&held devices that A. enable the flow of learning to be instantly intercepted & channelled, & B. are what today's students are already choosing over & above more expensive PC's & non-converged technologies.

See the [Eppendix](#) for 'Moving at the speed of learning'.

**B.****Basics >**

Quick Summary of hardware, software & operating tips.



The hardware & software basics of this platform are covered very well in Apple's own 'Getting started with the iPod touch' guide ([download to iBooks here](#)).

- Browse the iBookstore to also find the free iPhone and iPad guides

Slide to Learn aims to provide the following additional info as a quick starter guide:

Hardware: the iPhone & iPod touch have been through four generations so far.

**iPod Touch >**

- **1st generation** (2007) had adequate but slower processor than later models & no bluetooth or support for microphones. Storage capacity 8, 16 & later 32GB.
- **2nd gen** (2008) had faster processor & graphics chip to best handle iPhone OS 3.0 software apps, as well as bluetooth, speaker & support for microphones. Storage capacity 8, 16 or 32GB.
- **3rd gen** (2009) has a faster processor & graphics chip than iPhone 3GS. Also added voice control & VoiceOver support. Storage sizes 32 or 64GB. The 2nd gen 8GB model was also still available but at a lower price.
- **4th gen** (2010) brings A4 processor, front VGA camera for Facetime video calls, rear camera for HD720p video recording (but only 0.7 megapixel still images) & 960x640 Retina screen. Storage capacity 8, 32 or 64GB. Also should have support for bluetooth keyboards.

**iPhone >**

- **1st gen** (2007) was released only in the USA & combined an iPod, Phone & internet tablet with a multi-touch interface for the first time. It also featured wifi & a 2.0 megapixel camera. Storage capacity 4, 8 or later 16GB.
- **2nd gen 3G** (2008) added GPS & slimmer design. This was the first iPhone available outside of the USA. Storage capacity 8 or 16GB.
- **3rd gen 3GS** (2009) added an improved 3.1 mp camera with touch to focus, video recording at 640x480, faster processor, more RAM, voice control & VoiceOver support, finger-print reducing coating on screen & slightly larger battery. Storage capacity 16 or 32GB.
- **4th gen** (2010) 960x 640 'retina' IPS display, front facing video camera, all glass casing, much thinner than 3GS, noise-canceling mic, Apple A4 processor, LED flash, fast 802.11N wifi, gyroscope, 5 megapixel camera, 720p HD video recording, iMovie for iPhone & 'Facetime' wifi video calling. Storage 16 or 32GB. Also has support for bluetooth keyboards & VGA out. A CDMA/Verizon iPhone 4 was released February 2011. Wifi hotspot support added with iOS 4.3

**iPad > (Wifi, or Wifi + 3G)**

- **1st gen** (2010) released April 2010 with 9.7 inch screen with IPS wide angle viewing, 1Ghz processor, tablet versions of Apps (that included extra functionality such as pop-up context menus), & new apps like iWork mobile & iBooks. Included fast 802.11N wifi &/or 3G wireless, microphone, accelerometer & compass. 3G model also brought wireless broadband & GPS. Storage capacity 16, 32 or 64GB. Introduced VGA out for presentations, importing of photos & video via a camera connection kit, & support for bluetooth keyboards.
- **2nd gen** (2011) to be released March 11 in USA, March 25 other countries. Is 33% thinner, 15% lighter than 1st gen. Features 2x faster A5 processor, 9x faster graphics, front and back video camera's (with 720p HD recording), screen-mirroring, three axis gyro, more RAM, iPad Smart Covers, & HDMI-out support (with Apple AV cable). Storage 16, 32, or 64GB.

Software: iTunes, Operating System **UPDATE> iOS5 + iCloud announced**

- The operating system that runs on the iPhone & iPod touch is known as iOS. 1st gen devices (see page 4) can run all versions up to iOS 3. General compatibility with updates is about 2-3 years.
- Updates to iOS are free. iOS4 is the current version & brought iBooks, multi-tasking, folders for Apps, Airprint, Airplay, spell checking, unified mail inbox, HDR photo processing & wifi Hot Spot capability for iPhone 4.
- iOS comes with many built in apps (such as web browser, clock, calculator, calendar, email, iPod, Maps, voice recorder etc). With iOS 4, 3rd party apps gained the ability to interact with the user by running in the background (double-press home button) as well as via the push notifications introduced with iOS 3.
- The iTunes App store provides access to over 425,000 (as at June 2011) apps.
- iTunes software manages content & apps stored on iOS devices & functions as a backup library & interface for syncing documents & files to iOS 4 devices. Apple is adding wireless options to this arrangement with iCloud later in 2011.
- There are specific terms and conditions which users must agree to.
- Volume licensing of apps (& bulk discounts for more than 20 apps) for schools is [available now in the USA](#), & hopefully other countries soon. Read about this development at [LearninginHand](#).
- June 6 saw iOS 5 announced - Will bring new PC-free syncing, backup & update solutions in conjunction with iCloud. Other new features to be display mirroring over wifi (via Airplay), new notifications that provide more interaction & usability, location-based reminders, Newsstand app for magazines & newspapers, Twitter integration, new Camera app allows images to be taken with volume button, photo editing will be added to photo app, Safari gains 'reader' function and tabs on iPad, iMessage messaging app. iCloud will bring auto-document & photo sync among other things.



SPOTLIGHT > Applications & iTunes syncing info with Tony Vincent:

NB. Many of the item below will change when iOS5 is released later in 2011.

- You can download & install apps from the App Store via the iTunes App Store on a Mac or PC or directly on your iOS device.
- In addition to browsing categories such as Games, Education, Photography, & Productivity, you can search the App Store. Alternatively, you can browse & search app at AppShopper.com. AppShopper's search results are more detailed than iTunes'.
- Approximately 34% of all apps are free of charge & another 31% are 99¢. The average price for an app is \$2.50.
- You must have an iTunes account to download apps. For school sets of handhelds, it is recommended you create an account specifically for school. Follow [these directions](#) to create an account that doesn't require a credit card number.
- You can authorize up to five computers to use an iTunes account for personal/non-commercial use. An unlimited number of Apple handhelds can sync to a single computer.
- Syncing an individual device to the same computer each time is ideal. Attempting to sync to a different computer than the original can result in data loss & extreme frustration.
- You can sync multiple devices to one Mac or Windows computer simultaneously. There are options for carts, cases, & hubs to allow for connecting large numbers of devices to one computer.
- iPad can run almost all iPhone/iPod touch apps. iPhone & iPod touch cannot run iPad-specific apps. Universal apps can run on all three kinds of devices & are denoted in the App Store with a + symbol.
- Some apps require the latest version of the iOS. You can check to see if your device is running the latest release of iOS by connecting it to iTunes, clicking the device's Summary Tab, & click the Check for Update button.
- Periodically paid apps go on sale for free. For school sets of devices, be sure to document when apps are downloaded for free in case of a software audit.
- I often share apps you may be interested in via twitter.com/tonyvincent. At times the apps I share are temporarily on sale, so download them while they are free or cheap.
- Apple has Terms/Conditions specific to educational institutions regarding paid apps.
- Apps can be organized into folders by tapping & holding one app until it jiggles. Then drop apps into existing folders or drop an app onto another to create a folder. Press the Home button when done.
- Folders & icon positions are individual to each device. Unless you restore a device from the backup of another device, folder & icon positions have to be manually set on each handheld.
- Delete apps on the device by tapping & holding one app's icon until all icons begin to jiggle. Tap the X next to an app's icon to delete the app. Press the Home button when done.
- To prevent students from logging into their own accounts & installing apps, enable Restrictions & turn off Installing Apps in the General section of the Settings app on each device. However, this will need to be turned off & back on each time you want to legitimately install apps, even through iTunes.
- Visit [HERE](#) to view the full list of info & tips around apps, itunes & syncing.



C. Challenge >

How can these devices be effectively rolled out in schools?



Once you know a little about the iPhone, iPad &/or iPod touch & how they can complement your learning vision & allow educator's & students to learn at 21st century speed, there is a good chance you will begin planning how to roll them out in your institution. This section is designed to provide an overview for that process.

Rollout Steps:

1. Pre-planning
2. Peer-trainers
3. Play/ Informal learning
4. Planned/ Formal learning
5. Personalised & Differentiated learning

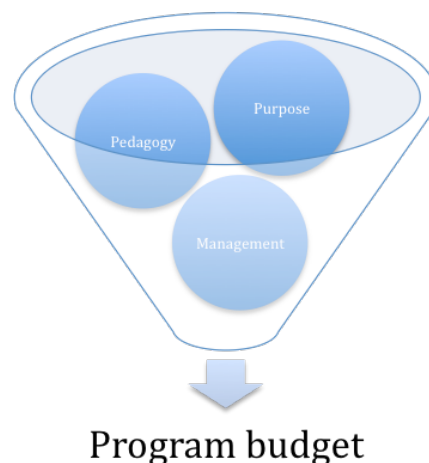
1. Pre-Planning

In detailing the steps required for a truly successful, learning-focused technology rollout, *21 Steps to 21C 1:1* (see [Appendix](#)) leaves the actual distribution of devices into student h&s all the way until step 20. Steps 1-19 are purely about pre-planning. While this is not always the way that actual iPod touch etc rollouts have gone, this mindset of doing the hard work first so that the educational benefits can be realised is a vital one if high hopes are not to be soon dashed when budgets over-run or parents & school community feel out of the loop. Essential early planning should at least include:

- A) Examining your learning vision & how mobile devices can enhance it (as discussed in section A. Ask Yourself).
- B) Including the school community/ Administrators/ other staff in the early planning.
- C) Preparing a budget.
- D) Re-thinking the setup of your physical learning spaces.
- E) Preparing software (iTunes etc) & online (MobileMe, Google Docs, various apps) infrastructure in advance.
- F) Making sure teachers are experienced & know what the devices are capable of.
- G) Including a reflection & assessment process for *after* the rollout commences.

SPOTLIGHT > Pre-planning with Kate Maccoll

While the topic of pre-planning is not simple – the overarching concept is simple: a failure to plan is a plan for the failure of your project. Hambledon State School has planned three mobile device deployments in the last couple of years: MP3 players to all teachers to support literacy initiatives, & two staged deployments of iPod touches. Approximately two thirds of our students now have regular access to iPod touches in their curriculum work. As a school we identify strongly with Stephen Heppel's statement "Every switched off device is potentially a switched off child". When we plan a device deployment, we are always keeping this thought uppermost in our minds.



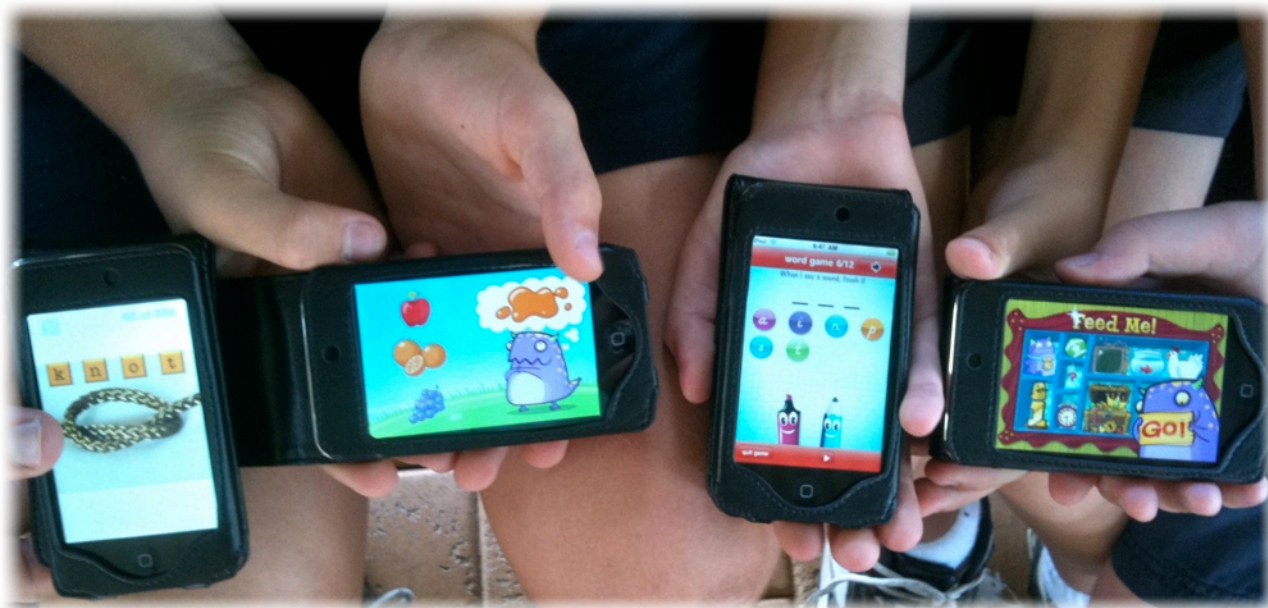
When we pre-plan & deploy programs (whether they include mobile devices or not) we always consider 3 things before reaching our budget. **1. Purpose:** What is the purpose of the program? What will be the devices purpose? What device specifications work best for that purpose? **2. Pedagogy:** What are the pedagogies we plan to use the device to support? What pedagogy does research tell us the device should support well? **3. Management:** How are we going to manage the devices? What procedures can make managing the devices as simple as possible for staff? How will we manage supporting the staff in their use? What methods of professional development will best help the staff to embed the device in the learning experiences they plan for their students?

Once purpose, pedagogy & management have all been extensively considered only then do we look to prepare a budget. This way we avoid planning backwards & having the program cost more in the long run or end up with devices sitting in the back of a cupboard or desk drawer because of inadequate planning.

2. Peer-trainers

Scenario: One Educator, 28 students. Crowded curriculum, growing paperwork. New devices, new software.

Question: How can one teacher train the students, manage the syncing & charging, & insure that effective learning is occurring? **Answer:** Let the students do it. Whatever the extent & number of devices your rollout involves, the simplest strategy is to train 2-4 students to charge, sync, & operate them, & give some power over to them, which is of course what the personalised learning that mobile tools makes possible is all about. These 'iPod Experts' or whatever you choose to call them, can also assist other students while learning is underway, thus leaving the teacher free to best facilitate the the pedagogical side of the rollout. Everybody wins.



3. Play/ Informal learning

Once the hardware & software is setup, & students are familiar with the devices, this guide suggests that the next phase of your rollout should be one of informal playtime with the devices. You might insure that the only apps installed are educational or fitting generally with the themes of current units of work, but this is the time to allow students to familiarise themselves with the devices.

There should also be a collaborative goal in this phase however:

A. Old things in New ways: Discuss with your students how they can now do with their iPod's or iPad's what they used to do before with pens & paper, Desktop PCs & books. Make a class wiki or similar place where the best ideas can be displayed for all students to incorporate into this playing/ informal phase.

B. New things in New ways: Further discuss with your students how they can learn in ways that were never possible before they had always on access to digital resources & sharing/ collaboration options. This discussion might also involve redesigning the physical space in which they learn, or re-imagining their daily schedule. Record the best as you did for step A. These will form the basis of Part 4.

4. Planned/ Formal learning

So, you've had some great discussion with your students around all the new possibilities for learning that their iPod's or iPad's allow. Who knows what new modes of learning your students (under your guidance) have suggested out of the 'playtime' of part 3? Now is the time to integrate them into your formal teaching program. This could mean you start implementing lessons where the content has already been reviewed by the students & a collaborative collection of relevant information collated by them. This leaves your face to face lesson time available fully now for higher order tasks such as creating new links & concepts by producing a video or website.

It could mean all your desks move to the sides & low tables & collaborative spaces take their place. It could mean students are tasked with analysing & deciding which apps should be downloaded. In all cases, it is up to the Teacher/ educator to still match these decisions with the original & ongoing learning vision.

D. Differentiation >

The full potential of this platform is in personalised learning.



"I don't have to change myself to fit the device, it fits me" - **Jony Ive, iPad designer.**

As Educators, we know we are supposed to provide a differentiated curriculum to each student that caters for their level of engagement, learning style & rate of progress. Realistically though, in a busy modern classroom, this is an incredibly difficult task. But why is the Educator at the front the only one in control of this? Why not enlist students themselves?

5. Personalised learning

This is where a converged, mobile device really becomes so revolutionary because it empowers the student to personalise their own learning. No longer are they dependent on the teacher to provide the book that is just at a certain level. Instead, students have access to countless apps & resources (via iTunes U, Youtube etc), all while being able to manage their own progress & become content producers/ collaborators as well. This can be achieved not just via the 2 or 3 PC's at the back of the room, or even on laptops that takes up more space & take time to start up.

Suitable mobile devices like the iPad, iPod touch & iPhone means that students can be in control of their learning just when its needed, & improves the speed at which they can respond the flow of complex learning that every 21st century classroom should be aiming for. Their use means that Teachers can stop playing at being a gatekeeper in sole control of learning resources, & instead coach students in how to best enhance their own learning paths - which after all they will have to do throughout life anyway.

- One example of how a school implementing an iPod touch project as part of a differentiated learning unit was able to then initiate a personalised learning cycle with students empowered to make their own learning decisions:



SPOTLIGHT > Personalised learning: an overview with Louise Duncan

The iPod touch does not by itself drive the personalisation of learning. Rather, it is formed by understanding the nature of each of our students & by providing an appropriately scaffolded curriculum drafted to cater for these differences. This personalisation should take into consideration first any special needs the student may have, followed by responses to perceived deficiencies in basic skills such as literacy & numeracy. The student should then be considered as an individual according to their cultural background, home environment & gender. Their learning styles should be mapped & their emotional intelligences considered.



Provision of regular, ongoing contact between teacher & student will then allow discovery of student interests, strengths & areas for improvement. In this environment, if the curriculum allows for student choice, the 'one size fits all' lesson is diminished & the teacher becomes a facilitator for personal learning rather than an instructor of facts. Further personalising can then occur via the construction of a series of feedback mechanisms to inform each student individually as to which skills or knowledge they should approach at each stage.

eLearning plays an important role in students' ability to personalise their learning as the culture in which they are immersed becomes one of mobility & connectivity. It is this culture we should embrace & harness rather than fear. It is our role as facilitators of learning to ensure those in our care are exposed to appropriate social guidelines in the use of mobile devices & are immersed in the true learning potential afforded to them through this access.

With this pedagogical base, the iPod touch becomes a portal through which much of this personalisation can be attained. Apps can be loaded to suit individual needs, podcasts can tap into the learning possible through audio, books can be accessed, feedback can be provided through teacher's recordings of reflections on student work & student organisation enhanced. The iPod touch is a companion to student learning through images, video, links to curriculum through mobile learning management systems such as Studywiz mobile, access to the world in their pocket through mobile internet & communications through apps which provide for real time connections over wi-fi.

The key element that sets this device aside as a true personalised learning tool is its mobility. Easily accessed in the schoolyard, on the bus, when talking with friends & family & in quiet times. Regardless of the possibilities other larger devices offer, nothing is so readily on hand with the scope & flexibility for learning as the iPod touch.

TOP FAQ's:

- **How do I display my screen (& apps) on a TV or via a projector?** > Photo's & video's can be displayed using an appropriate composite or component cable (gives slightly higher quality). The iPad, iPhone 4 & iPod touch 4 allow for full video out (via a dock &/or VGA cable) on an app by app basis. One way you can display iPhone or iPod touch screens or apps however is to use a visualiser (document camera), ingenious webcam/ iSight/ video camera setup, or by using the simulator that comes as part of the developer SDK for programmers.
- **iPhone, iPad or iPod touch? Which one should I choose?** > The difference between using an iPhone, iPod touch or iPad partly comes down to connectivity & how reliable wireless is at your school/institution. For working with students, I would suggest the iPod touch so the school does not have to organise & pay for 3G connections, with perhaps an iPhone or iPhones available to be used for school excursions where wifi is going to be an issue (or for rural communities where wifi isn't an option). The iPad with 3G is perhaps going to help out in this arena also, however it still lacks the camera of the iPhone. It does however offer a much larger screen & more powerful processor & runs advanced versions of iPhone software whose capabilities should be investigated. You might consider the iPad more as a collaborative/group work device & iPod touches for individual tasks.
- **Should our devices be Student or school owned?** > Having devices that are student owned brings up issues of what apps are placed on the devices, where they are synced to, & blocking firewalls etc. For this reason, many schools choose a school owned model, & while not all schools then allow them to go home, there are projects within the USA that have decided to go down this path so that the learning becomes 24/7. School owned may mean having them as a class set where teachers check them out from a library for particular classes or, as prices fall, purchasing one for every student. Some institutions are trialing student owned devices however as research has demonstrated students are more likely to integrate them into their daily learning in this scenario.

E. **Appendix** >

Links to all the companion resources & networks you will need.



Slide to Learn is intended to be a short starting point only. See below for carefully chosen resources & networks which together can help ensure the success of your mobile learning in education journey:



Ask Yourself >

'The Miracle Transformation Fallacy': This article references the OLPC XO laptop program, but has great relevance to the rollout of any technology in education.

Framework 4 Learning: an example of how one school has created a learning vision that integrates technology while keeping pedagogy at the centre.

Horizon reports: future-gazing to where education is headed.



Basics >

Apple Education resources - including iPad and iPod touch user guides.

Learning in H&: Do so much with an iPod touch & iPad Tony Vincent's great site.

iPod touch/ iPhone for Administrators Guide: digital tools & apps for leaders.

Official Apple iPod touch support page.

iPads in Schools Livebinder - 9 tabs of help for teachers, parents, administrators etc.



Challenge >

InTouch School: Comprehensive guide to their rollout of 450 iPod touch's. Includes app recommendations, user agreement & lesson ideas.

21 steps to 21C 1-to-1 success: Detailed rollout guide for deploying laptops into schools - much of which is directly relevant to mobile device rollouts.

- **21 steps to Success** - iPad version by Victorian Education Department.

Digital version of Blooms taxonomy & a **listing of Apps to match** (from slide 21).



Differentiation >

Apple Classrooms of Tomorrow - Today & Challenge based Learning initiatives.

Mobile Learning & iTunes U: Apple's official overview.

Apps by grade level & subject by Escondido Union School District.

iPhone & iPod Touch Apps for possible educational uses: Leaderstech PDF.

iLearn 'self-directed learning' project: **Overview** > **One** > **Two** > **Three** > **Four**.

iEAR listing of App reviews by subject categories.



Networks >

> **Slide2Learn** iPad/iPhone/iPod touch learning community & events.

> **Education Apps Review** network.

> **The iPod touch Classroom** Ning.

> **iPads Educators Ning** network.

> **iPad4Edu** iPad for Education Question & Answer site.



Blogs/Sites >

Abilene University Connected Initiative > **iOS device in Education project**.

Fraser Spiers > **iPad 1:1 school deployment**.

Victorian Education Department > **iPads for Education trial**.

Louise Duncan > **Personalising Learning with the iPod touch**.

Kate Maccoll > **Hambledown State School Action Research project**.

Jenny Ashby > **iPod touch project**, > **iPad trial project**

Adam Bryce > **Apples for Kids** - podcasts from an iPad trial school

iOS links and discussion being shared across Twitter > **Twitter/Slide2Learn**